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	°	′
Canopus from head of Comet	75	10
a Crucis „ „ „	67	58
Rigel „ „ „	104	48

January 22.—Lat. 27° 36′ S. Long. 21° 44′ W. G.M.T. $10^{h}\ 27^{m}$. Comet more indistinct. Approximate distances of point:—

	°	′
Canopus	73	50
a Crucis	66	38
a Arietis	91	48

January 25.—Lat. 23° 4′ S. Long. 24° 27′ W. G.M.T. $10^{h}\ 37^{m}$. Comet visible but faint. Approximate distances:—

	°	′
From Canopus	66	10
„ *a* Crucis	66	0
„ Rigel	90	30

On the Inclinations of Cometary Orbits. By W. H. S. Monck.

Mr. Chambers in his *Handbook of Descriptive Astronomy* has tabulated the computed cometary orbits up to the year 1876, in which year the last edition of his well-known book was published. He arrives at the conclusion that there is "a decided disposition in the orbits to congregate in and around a plane inclined 50° to the ecliptic." His figures, I think, hardly bear out this result, though on dividing the inclinations into intervals of 10° the largest number appears in the interval between 40° and 50°. But the comets whose orbits are inclined at angles of 70° to 90° amount to sixty-seven, while those whose orbits are inclined at angles of 10° to 30° number only forty-three, both being equally removed from the supposed median plane at 50°.

It occurred to me to examine the orbits of comets which appeared since the publication of Mr. Chambers's List, and I found that the tendency towards orbits inclined at angles of over 50° became much more marked. Many of the earlier orbits being unreliable, however, I thought it best, instead of simply adding the later comets to Mr. Chambers's Table, to tabulate the inclinations of those which have appeared since A.D. 1650, omitting all which are known or believed to be identical. Such a table of course involves some uncertainties, but I believe the following will be found substantially correct:—

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Inclinations of Cometary Orbits to the Ecliptic.

(Containing only Comets which appeared since A.D. 1650.)

°		°		per cent.
0	to	10	20	7·7
10	,,	20	19	7·3
20	,,	30	15	5·8
30	,,	40	30	11·5
40	,,	50	37	14·2
50	,,	60	33	12·7
60	,,	70	32	12·3
70	,,	80	37	14·2
80	,,	90	37	14·2
		Total	260	99·9

Here the tendency to a maximum at 50° has entirely disappeared There are in fact more comets in the interval 70° to 90° than in the interval 40° to 60°. But on the other hand there is a very marked deficiency in inclinations from 0° to 30°. In the interval from 30° to 40° we first reach the average number. From 40° to 90° the number is invariably in excess of the average.

If we were at liberty to distinguish comets of short period (which are now known to be pretty numerous) from those which move in very elongated ellipses, parabolas, or hyperbolas, the results would be more striking. Comets of short period have even a more decided preference for small inclinations than the other comets have for large ones. And even if we do not adopt Mr. Proctor's theory, that these comets of short period have been ejected from the planets (especially *Jupiter*), or Professor Kirkwood's suggestion that some at least of them have a common origin with the asteroids, I think there is considerable reason for regarding them as original members of the solar system, exhibiting many of the characteristic properties of that system. If so, it is only to the other and larger class of comets that we can look for information as to the prevailing direction of motions in exterior space; for that their high inclinations to the ecliptic is not caused by anything in the solar system is, I think, certain. A comparison of the inclinations of their orbits with those computed for binary stars would be interesting from this point of view.

On the Orbit of Comet II. 1883. By Robert Bryant, B.A., B.Sc.

In the *Monthly Notices* for last November Lieut.-General Tennant gave parabolic elements of the orbit of this comet, and expressed his opinion that there is no justification for assigning an orbit with an eccentricity different from unity.

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